REMARKS

The Office Action Summary sheet mailed July 1, 2005 stated claims 38-43 were allowed and claims 35-37 and 44-54 were rejected.

As described below, later sections of the July 1, 2005 Office Action rejected claims 38-43 and stated that claims 35-37 and 44-54 would be allowable if a terminal disclaimer were filed for the application. This response places pending claims 35-54 in condition for allowance. Applicants request the Examiner pass those allowable claims to issue.

Page 2 of the July 1, 2005 Office Action objected to paragraph number [0001] of the disclosure because the patent number of the parent patent had not been filled in. The amendment to the specification enclosed herein, contains a replacement paragraph for paragraph number [0001] which includes the patent number of the parent patent.

Page 2 of the July 1, 2005 Office Action contained an objection to claim 51 and consists of a statement that the "means for" which appears on line 4 of the claim should be deleted. The amendment to claim 51 deletes the term "means for" which appears in line 4.

On page 2 of the July 1, 2005 Office Action, claims 38-43 were rejected under 35 U.S.C. 112 first paragraph as failing to comply with the written description requirement. Specifically, the Office Action states that claim 38's "a multiplexer selection signal to a multiplexer stage wherein said digital control section uses said channel identification to generate said multiplexer selection signal and said multiplexer selection signal is used by said multiplexer stage to pass said maximum amplitude input signal to said output" contains "new matter because there is no such teaching and/or discussion being found in the present specification." Claim 38 is fully supported by the specification and Applicants respectfully traverse this rejection.

"A disclosure in an application, to be complete, must contain such description and details as to enable any person skilled in the art or science to which the invention pertains to make and use the invention as of its filing date." MPEP 608.01(p). "To comply with the written description requirement of 35 U.S.C. 112, para. 1, . . . each claim limitation must be expressly, implicitly, or inherently supported by the originally filed disclosure." MPEP 2163.05. Support for this portion of claim 38 is found in at least the following sections.

"The multiplexer [20] provides a channel selection circuit that allows selection of an input channel controlled through a connection 22 from the [digital] control section [42]."

Paragraph [0030]. "Outputs from the digital control section [42] [include] a 1-bit multiplexer mode control to select user channel or sense circuit selection." Paragraph [0037]. One of ordinary skill in the art would understand that a signal sent to the multiplexer used to select an input can be called a multiplexer selection signal. These two paragraphs, *inter alia*, support a multiplexer selection signal that is provided to a multiplexer stage.

"The sense circuit 30 provides for signal identification and may be implemented as a 'winner-take-all' circuit, wherein the highest amplitude signal is selected and digital signals O_1, O_2, O_3, through O_n are output to identify the channel." Paragraph [0030]. "The sense circuit [30] performs identification of the channel having the highest amplitude signal." Paragraph [0033]. "The digital outputs from the sense circuit O_1-O_n are connected to the digital control section 42 which in turn controls the selection of which analog input signal is to be routed to the analog output." Paragraph [0030]. "Therefore under programmed commands to the digital control section, a sampled analog input channel is output as A_{OUT} 24 which is either selected by command or selected by the sense circuit 30." Paragraph [0035]. These paragraphs [0030], [0033] and [0035], *inter alia*, support a digital control section [which] uses said channel identification to generate said multiplexer selection signal.

"The multiplexer [20] provides a channel selection circuit that allows selection of an input channel controlled through a connection 22 from the [digital] control section [42]." Paragraph [0030]. "A signal whose amplitude corresponds with the selected input channel is output on analog output line A_{OUT} 24 of the multiplexer." Paragraph [0030]. Paragraph 30, *inter alia*, supports a multiplexer selection signal is used by said multiplexer stage to pass said maximum amplitude input signal to said output.

In addition, Figures 1 and 3 also support claim 38. Figure 1 of the current application is a block diagram of a multi-channel detector readout according to an embodiment of the present invention. Figure 1 contains a number of stages including multiplexer stage 20, and digital control section 42. Figure 1 is described throughout the application and specifically in paragraphs [0029] – [0030] and [0037] – [0049] of the application as filed. Figure 3 of the current application is a block diagram showing the flow of sampling, sensing, and multiplexing within the multi-channel detector readout of Figure 1. Figure 3 is described throughout the application and specifically in paragraphs [0032] – [0036]. Further support for this portion of

claim 38 is found in the original claims, including, but not limited to, original claims 3, 12, 16, 17, 23, 27, 30 and 31.

Claims 39-43 each depend, directly or indirectly, from claim 38 and are also supported by the specification as filed and therefore patentable.

On page 2 of the July 1, 2005 Office Action, claim 43 was also rejected under 35 U.S.C. 112 first paragraph as failing to comply with the written description requirement. Specifically, the Office Action states "the present specification fails to provide an adequate teaching and/or discussion regarding suppressing manner of 'digital noise' as now being recited in the claim 43. Claim 43 is fully supported by the specification and Applicants respectfully traverse this rejection. While support for this claim can be found throughout the specification, paragraphs [0034] – [0036] specifically support Claim 43.

On page 3 of the July 1, 2005 Office Action, claims 35-37 and 44-54 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 31-34 of U.S. Patent No. 6,737,627. A terminal disclaimer in compliance with 37 CFR 1.321(c) is included with this response to overcome this rejection.

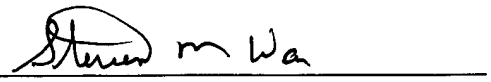
Page 3 of the July 1, 2005 Office Action states claims 38-43 are allowable over the prior art. In a telephone interview with Examiner Le on July 20, 2005, Examiner Le explained that these claims are allowable over the prior art if Applicant identifies where support for the claims is found in the specification as filed. As described above, the specification as filed, supports each of the pending claims 35 – 54. Applicants respectfully submit that the present application is now in condition for consideration and allowance. Applicants request that the Examiner allow pending claims 35–54.

Page 4 of the July 1, 2005 Office Action erroneously addresses Applicant's [sic] submission of the requirements for the joint research agreement prior art exclusion under 35 U.S.C. 103(c) on May 2, 2005. Applicants' Response to Office Action filed on May 2, 2005 did not contain a joint research agreement prior art exclusion. This was confirmed during a telephonic interview with Examiner Le's supervisor David P. Porta on July 20, 2005. On July 28, 2005, the Patent Office mailed an Interview Summary that identified this discrepancy as a "typo error from selecting Form paragraph."

Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of the above-captioned application, he is invited to contact Applicant's representative at the number indicated below.

Respectfully submitted,

Date: August 23, 2005



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